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VOL. XXXI, No. 25 DECEMBER 6, 1934

THE JOURNAL OF PHILOSOPHY

THE PROBLEMATIC SITUATION. ITS SYMBOLIZATION AND MEANINGS

THIS paper will state the outline of a hypothesis in scientific method. This hypothesis will be applied to certain distempers of the human intelligence of emotional origin. Those distempers are all species of the same genus and cover the ground from the various aspects of the conflict of science and religion to the football boy's loss of zest for his game. Somewhere between these limits will be found such failures in the zest for life as John Stuart Mill records in his *Autobiography* as having befallen him, when, after a youth and young manhood of unparalleled intellectual activity, he imagined that his emotional life had been killed. Somewhere within this range of "lost souls" must be found those who refuse to make their stoicism a minor note to the deep enthusiasms of a high religion. In short this paper will lend little support to the conviction of those intellectuals who hold that as soon as one comes to know anything he must lose a corresponding amount of enthusiasm.

The hypothesis advanced in this paper takes its start from two fertile ideas. One of them is found in Dewey's *Quest for Certainty*. The other is found in Mrs. Langer's chapter entitled "Insight" in her book *The Practice of Philosophy*.

There may have been practical activity before there was ever such a thing as knowledge of an objective world. And there is plenty of activity in the human organism to-day that is not initiated or directed by preëxistent knowledge so far as anybody has any right to make assumptions about the matter.

Practical activity is the field of ethics. Emotion with its valuations is the field of religion and of all manner of discourse that deals with the zests, the enthusiasms, and the worthwhileness of living. Factual objectivity is the field of knowledge, common knowledge and scientific knowledge. These fields are interrelated by symbolization. We actually know so little of their interrelations, that the symbolic relation, being the barest of all relations, will protect us from premature assumptions regarding any common nature which the progress of experience may later reveal them as possessing.

Mrs. Langer in her chapter entitled "Insight" in her book, *The Practice of Philosophy*, suggests that a musical composition may be a symbolic pattern of the emotional life. The composition is made

up of objective elements such as melody, harmony, rhythm, pitch, timbre, and whatever else may be analyzed out of music. To each one of these elements in the objective composition corresponds an element of a grand emotional complex. $R(ab \cdot c)$ means the relation by which the objective element (a) in the composition symbolizes a subjective element (c) in the emotional complex for some interpretant (b). Now the emotional elements have the disadvantage that they are not objects of knowledge and therefore are expressible only by symbol. However, there is not necessarily any mystery about them. The case of a football player may be a more intelligible illustration than the musical composition. At any given moment the player carries an atmosphere that gives him his character as a player. His atmosphere is his actual consciousness. It is an emotional complex. It is a whole and its elements are not objects of distinct awareness. Analysis and understanding belong to the field of objective knowledge, but not to that of the emotions. "Knowledge" in the words of Dewey "attends strictly to its own business."[1] The emotional elements can not be analyzed out of the total consciousness of the player. He possesses the total consciousness. It constitutes his instantaneous self at any moment. While the elements of it can not be teased out of it, we may find good grounds for assigning elements to it by hypothesis. That is what hypothesis is for—to bridge over the vast areas of our ignorance so that our researches may go on unimpeded. We may always know something without knowing everything. We may infer that there are elements in the player's emotional consciousness through the following consideration. By something infinitely more delicate than the pressure on an electric button, the player can bring into the focus of his consciousness one object after another, the ball, the opposing quarterback, the score to date, the goal, the grandstand, the distant friend who is listening in on a broadcast of the game. The player is distinctly conscious of these objects, one at a time and only momentarily; never of all of them at once. Yet in a most significant sense these objects are with him all the time. For, if any one of them could be blotted out of existence, his whole character as a player would be correspondingly changed. Every one of these objects has its representative in his consciousness, all the time. That representative is not there as an object. It is there as a part of his emotional consciousness which, as such, he can not isolate in any possible form of experience. An emotional complex may undoubtedly possess elements which are beyond the business of knowledge or of any other distinct form of experience. An emotion is nascent action, one held in restraint. The emotional consciousness is a complex of attitudes,

[1] John Dewey, *The Quest for Certainty*, p. 296.

of possible action in reserve. An action restrained means love, aversion, jealousy, hate directed toward some object. The player's whole emotional complex consciousness, made up of all these possible activities and all these attitudes, unfolds into overt action as the drama of the game develops. The objects of his emotional attitudes are themselves complexes of activity. His concepts of those objects are operational definitions. An object means what he can do about it or what he can undergo in his relations with it. This gives practical activity a very fundamental position in the three phases of experience, action, emotion and knowledge. But this fundamental relation does not by any means reduce the three to an identity. The last word has not yet been uttered regarding the operational definition. For example, the current as a factor of the electric circuit is defined by the operation of measuring it. This operation is described in terms full of concrete qualitative content. But the final concept of current that emerges is empty of all qualitative content. It is a mere *something* that is the same everywhere along the circuit and adds across it. It may exhibit itself as a constancy in the evolution of hydrogen in electrolysis, a constancy in the color of a lamp or of heat evolution, or in the capacity factor of a motor's power. But itself is only a factor of energy, as contentless a concept as has ever entered human intelligence. This concept of current does not carry the qualitative content of the operations which denotively define and measure it. Conceptual knowledge has in it something which could never have been anticipated in any experience actional and emotional out of which it emerges. That is why, in attending to its own business, knowledge does not fully illuminate action and emotion.

The operations which define current denotively, i.e., point it out and direct the process of calibrating ammeters which may be used to measure it, being actions, are not objects of knowledge at all. The symbolizations which we make of the concept current are objects of knowledge.

An element in the emotional consciousness is not identical with some element in an object, nor with any element in an action. But we may proceed on the hypothesis that elements in the three fields mutually correspond. An element in one of these fields may symbolize one in another. Complexes of elements in one field may symbolize complexes in the other. The interpretant may make the translation from the one field to the other, thus solving problems in that other field, just as securely as a mathematician may manipulate chalk marks on his blackboard as symbols of mathematical concepts and propositions. But chalk marks can claim no identity with mathematical concepts. $R(ab \cdot c)$ means that (a) an element in

some musical composition, say, may be a symbol for (c) an element in the emotional pattern in the composer or in the listener. The interpretant (b), in this case an intelligent person, manipulates and translates these objective elements as symbols in a way to solve the problem of organizing his own emotional life into the pattern of the composer's. But if $R(ab \cdot c)$ holds, then $R'(cb' \cdot a)$ also holds. That is, another interpretant (b') may manipulate the elements of his own problematic emotional life into the well-ordered patterns of an objective musical composition of his own production. For in symbolization, one entity (a) in any class of entities whatever from emotions to ink prints may symbolize another entity (c) in any other class of entities whatever, because of the barest kind of correspondence assigned to them. It follows that (c) can just as well symbolize (a) as (a) can symbolize (c). The symbol is that member of the pair which lends itself to manipulation and that depends on the particular direction which the problem takes, not on the character of the interpretant which makes it easy to define. One of the relations, R, deals with a case of a problematic situation out of which appreciation comes, the other, R', with one out of which a scientific or artistic creation comes.

In the first class of cases the interpretant may be an intelligent person just as in the case of a mathematician manipulating his literal symbols. In the second case there are apparent difficulties. In every case we must think of the interpretant performing the following two functions. It must determine what particular (a) in some one system of entities shall correspond to some particular (c) in another system. This is the interpretant's function as a translator. The second function is that of solving problems involved in the one systen of entities by "manipulating" the other system as symbols. In some systems of entities the interpretant can not be a person at all. In some cases it can not even be spoken of as an operator without the invention of metaphysical entities of no possible value except to serve this one purpose. It is possible, one may imagine, that sometime we may accept a metaphysical entity which may be conceived as assuming the burdens of the interpretant's functions. However, the great advantage of the symbolic logic and the philosophy of meaning as treated by philosophers like Mrs. Langer is that they permit the development of scientific methodology, the contemporary form of epistemology, without the premature acceptance of assumptions that later could prove embarrassing. There are advantages in positivism. In considering some systems of entities as symbols whose "manipulation" may be conceived as bringing order out of the partial chaos of a problematic situation in creative work, such as Poincaré's *Mathematical Creation,* the "manipulation" better be re-

garded as going on without a manipulator. The only logical requirement is that the two functions of the intrepretant get performed. In the solution of a mathematical or a physical problem, there is the integration of elements of the emotional field, and of brain or other organic actions, ending finally in the abstract objective pattern, say, of a new deductive system, in which chains of syllogisms start from new and unheard-of premises, new categories, a new space system of four dimensions, and an astonishing identification of physical entities like mass with geometrical properties statable in terms of the curvature in a space-time continuum. Now, following the view so far presented, this abstract objective conceptual and logically deductive system has elements in it corresponding to the subjective elements that have been integrated in the emotional field, precedent to the emergence of the objective solution. This intellectual objectivity has come out of the integration of emotional elements as symbols of it, unbeholden to a manipulator. The functions of an interpretant, however, have been performed. The brain changes perform the functions of an interpretant. This latter is the matter of the integration of a physical system out of its factors of compossible alternative and competitive integrations. Now a physical system, when its elements are displaced from their normal activity or position, spontaneously regains its stable configuration, through forces resident in the system. These forces after all are turning out to be unnecessary and fictional metaphysical entities. In the Einstein theory of gravitation the planets achieve the pattern of their motion, not by action of forces, but by virtue of a principle of least action by which the elements of motion are integrated into the actual path taken. The principle of least action here, a purely mathematical function, determines the way in which the symbols get "manipulated" in order to solve a problem in the field of action. We here state the manner of the interpretant's functional performance as an impersonal principle of mathematical determinism. Such an interpretant can not be an object of knowledge any more than the elements which it orders can. We know only the symbolization of the interpretant and its activities. Each term in the relation $R(ab \cdot c)$ is a symbol. The thing it symbolizes may or may not be an object of knowledge. The symbol is an object of knowledge.

In each particular field where symbols are integrated, whether of action, emotion, or knowledge, to the end of the creation of scientific or artistic objects, we conceive of the interpretant in terms peculiar to that field. We are always in a special universe of discourse which remains uninvalidated after scientific objectivity has come out of it. The conceptual system that emerges from a problem

does not impose its language upon the organism's activities nor upon the emotional drama which has been instrumental in its production. We may continue to speak of the emotional field as an atmosphere, that may clear itself in its own automatic ways, such as by an Aristotelian Catharsis. We may continue to speak of the dramatic crises of the emotional side of creative effort. We may speak of "hunches" which come through something we may name "insight" or even "intuition" to be later verified or discarded in the field of scientific objectivity. We may clear up the emotional life by some system of psycho-analysis. All this is not scientific, of course not. Science is knowledge and knowledge keeps to its own field. We can symbolize the emotional field in ways that facilitate control of it, but that is not knowledge. It is art. And in such connections we may use the traditional symbolizations that belong to poetry, art, and religion. It is not science, but it is a part of scientific methodology; for it conditions the emergence of knowledge. The language of art and religion is not superseded by that of science any more than knowledge can disillusion our emotional experience of the world.

The distempers of emotional origin mentioned in the opening paragraph of this paper, including many things from the innumerable aspects of the conflicts of religion and science to anybody's loss of zest for his work or his pleasure, all come from maladjustments of action, emotion, and knowledge in life experience. These maladjustments disappear when we are grappling effectively with our problematic situations. Without being committed to full agreement with Dewey, the particular view here presented follows him in holding that there is no preëxistent essential nature in knowledge whereby its pursuit necessarily leads to impairment of that other way of experiencing the world which we call action, nor to the degradation of values that come out of action and motivate its continuance and development.

Professor Bridgman in an article in a popular magazine[2] has sounded the praises of "Intellectual Integrity." The equally important values of the integrities of practical action and of emotion might be insisted upon. Now the term "integrity" as it will be used in this connection has to be defined. Integrity has to do with *wholes*. Integrity is achieved in the process out of which wholes arise from integration of the factors in a problematic situation. The field of scientific knowledge readily breaks up into such wholes as a philosophy of Holism might cherish. They are wholes or isolates, or systems or perhaps monads. The symbolic logic will give a modern meaning to the Leibnitzian proposition that monads mirror other

[2] "The Struggle for Intellectual Integrity," *Harper's Magazine*, December, 1933.

monads. Such wholes are exemplified in the electric circuit, a solar system taken in its purely mechanical aspects, an atom, a Carnot cycle, or an Einstein space-time continuum. Such wholes are always universals and they come out of the solution of problematic situations. Wholes are isolated when a problematic situation is isolated. Scientific genius is exhibited in the art of biting off no more than the biter can chew. If the universe did not possess this holistic structure, the apostles of complexity might continue to occupy the stage along with their blood relations, the worshippers at the shrine of futility. In the development of these wholes, isolates, or monads out of problematic situations, the three ways of experiencing are involved: action, emotion, and knowledge. The emerging wholes may have, and will have, the quality of integrity if they exhibit in the end result complete objective factuality according to the standards universally recognized by science.

The problem solver in such a case is very likely to attain the three integrities, the integrity of practical action, contributing to his ethical achievement, the integrity of emotional life and its values, and intellectual integrity. Intellectual integrity has for its conscience the feeling that the seeker is untrue to something deep within him if he refuses to follow a process of thinking to its logical terminus simply because the consequences are going to be uncongenial to his emotional biases (Bridgman, *Harper's Magazine,* 1933). The problem solver who follows a problem through to its attainment of intellectual integrity will have necessarily, in so far, won his emotional integrity. And since such a solution *works,* he will have, so far as his particular whole is concerned, won his ethical integrity. At the very onset of his problem the would-be-solver was forced to discipline his emotional nature so sternly that he may have cherished the illusion that he had actually suppressed it. That was an error, for all asceticism is fundamental self-deception. In the end factual objectivity, i.e., scientific knowledge, will have been obtained through an emotional organization from which all irrelevant emotional complexes had been eliminated. An emotional integrity that is thus disciplined and won in the same struggle with the truth itself, can never be disillusioned through any possible level of intellectual achievement. The football player will not lose his ideals if he really solves his problems. If the emotional appeal of the grandstand does not find its true relevancy to the game, the football player's career may end in the disgust of so-called disillusionment, which is just another name for failure to attain the three integrities.

In the onset of a problem, irrelevant concepts from the field of knowledge, so-called preconceived ideas, and irrelevant emotional

complexes may together block repeated struggles for a solution. In the end there is both a reorganization of objective knowledge and of the emotional life, the world of values. There will be no damping down of the deep enthusiasms of life, artistic, religious, practical, or intellectual, if intellectual, emotional, and ethical integrities have been won through the strenuous ways of science. If irrational likes and dislikes have been wilfully retained the intellectual outcome will be mere rationalization of a vain emotionalism. The emotional life that develops along with such intellectual miscarriages ends in disgusts, disillusionment, and buries enthusiasms in the grave of cynicism.

It is a striking fact that the great scientists never betray this type of pessimism. When religion refuses to surrender its ancient valuations, irrelevant emotional complexes dictate conceptual objectivities which scientific advance can not tolerate. But long before science shall have pronounced its adverse judgment, that religion will have lost its soul from its failure in intellectual integrity along with which the other integrities also perish. Religion perishes when it refuses its Cross, the potent symbol of the creative spirituality of the West. The Cross is the surrender of irrelevant concepts and irrelevant sentiment in the face of any problem in whatsoever field. The Cross is the symbol of reconciliation of religion with science.

The values that are involved in action and emotion which do not issue in objectively verifiable knowledge are precarious in the extreme. Yet knowledge is conditioned by existences more primitive than itself. These primitive things are action and that whole realm of possible action, restrained in the interest of waiting choices, in other words, emotion. These conditions, prior to knowledge, when they issue in knowledge, point to a nature that is unlimitedly plastic, however rigid it may appear to human wilfulness. A science that finds its "ultimate" premises subject to revision and radical generalization spells plasticity of nature just so far and that is pretty far to one who can get anywhere near the firing line of science to-day. How a social science is possible under these circumstances is a very solemn question. Human society to-day is built upon the gifts of science coming through a very few exceptional individuals, and society is not made up for the most part of such individuals. This dilemma is not one to inspire either enthusiasm or stoicism. The one betokens a lack of realism, the other an obliviousness and insensibility to impending tragedy. There is nothing forbidding in tragedy; for human history is made of it; but the tragedy that exceeds the possibility of human tolerance is one whose outcome leads to ultimate hopelessness.

Enthusiasm and stoicism are probably superficial counterfeit impressions of the spirit yet to be evoked from the fast developing drama of contemporary civilization. It is probably not too much to say that the emotional attitude out of which a social science may come has as yet been only imperfectly experienced, much less named. It resides among the values yet to be evoked from experience that transcends any knowledge which we now have. But who will say that such experience is not to-day in process of realization.

This is a philosophy of nominalism so far as knowledge is concerned. We know a universal by its symbolic pattern. There are two other ways of experiencing a universal, by action and by emotion. We *engage in* an action. We *have* an emotion. We *know* an object. *Engage in, have,* and *know* are correlative and mutually exclusive terms. Besides knowing the symbolic pattern of a universal, we may actively participate in it and we may entertain emotional attitudes implicated in it.

How far these views coincide with John Dewey's and how far they venture beyond the bounds which Mrs. Langer respects, he who reads can readily judge.

LEWIS E. AKELEY.

UNIVERSITY OF SOUTH DAKOTA.

ABSTRACTS OF PAPERS TO BE READ AT THE THIRTY-FOURTH ANNUAL MEETING OF THE EASTERN DIVISION OF THE AMERICAN PHILOSOPHICAL ASSOCIATION, NEW YORK UNIVERSITY, DECEMBER 27, 28, AND 29, 1934

A Definition of Abstract Systems. PAUL HENLE.

Contemporary discussions of deduction in abstract systems seem to give inadequate accounts of proofs of independence or non-deducibility. This is to say that, while the concept of independence is discussed, there seems to be no sufficient explanation of how it is that independence proofs, of the sort commonly employed in postulate theory, actually do succeed in proving independence. The reason for this difficulty lies in the fact that independence proofs commonly make use of so-called examples, a different kind of entity from postulates and theorems. These examples deal with a specified number of elements and describe the relations between them by stating the holding or failing of the relation for each permutation of elements. Slight consideration is sufficient to show that examples may be abstract, i.e., schematic, in the same sense in which postulates and theorems may.

This paper proposes to define an abstract system as a class of

abstract examples dealing with the same variables. The advantages claimed for this definition are the following: (1) By means of a few highly plausible assumptions, it is possible to show that every system, in the sense defined above, is deductive, i.e., a set of laws may be stated from which all its properties can be deduced. (2) The relations of laws of systems to examples may be clearly enough shown to justify the usual independence proofs. (3) The possibility of describing systems in non-postulational terms is explained. (4) The definition permits an elaboration of the concept of completeness of systems.

Contradiction. OTIS H. LEE.

The theory of contradiction involved in the assertion that contradictory propositions can not both be true, implies that there is no such thing as contradiction, neither in facts nor in knowledge nor in propositions. For this theory, contradiction is static, a kind of impossible fact. But contradiction is metaphysical in nature, and can be understood only through its function as the moving principle of experience. Every judgment asserted is asserted as true without limitation. This is not a conscious claim to all-embracing absoluteness, but rather a naïve assurance, which is of the nature of thought. Now the activity of thinking lies in solving specific problems, either theoretical or practical; and every problem involves a negation and limitation of the thought for which it exists. This limitation of thought by the situation which confronts it is contradiction. This contradiction holds between two positive opposites; between A and B, not between A and $-A$. As we say, the facts contradict us. The inadequacy of knowledge to a situation is not a disagreement between the two, accompanied by the emotions of surprise, confusion, or disappointment. The experience of such inadequacy, confused, and preceding any clear analysis into agreements and disagreements, is the experience of contradiction, which is involved in all thinking.

A Solution of the Paradoxes which Avoids the Theory of Types. FREDERIC B. FITCH. (Introduced by F. S. C. Northrop.)

A system of logic is formulated by means of an algebra or abstract system, using ordinary mathematical postulational methods. In general $x(yz) = (xy)z$ and $xy = yx$ do not hold for the algebra. By definition $xyz = (xy)z$. Any function $f(x_1, x_2, \ldots, x_n)$ may be denoted by the algebraic expression $fx_1x_2 \ldots x_n$, in accordance with Schönfinkel's method. The operators I, B, and C are used. They are such that $Ix = x$, $Bxyz = x(yz)$, $Cxyz = xzy$. Certain other operators which are used by Schönfinkel and Curry are here

omitted, in particular the operator W such that $Wxy = xyy$. The general proposition $(x)fx$ is expressed by G_1ff. Analogously $(x, y)f(x, y)$ is expressed G_2fff, and in general the number of occurrences of f will be one greater than the number of "apparent variables."

It can be shown that by treating the general proposition in the above way and by omitting W an exceedingly powerful logic is made possible, and one that precludes all known ways of reaching the paradoxes of Mengenlehre. Furthermore, no theory of types is required. The logic is two-valued, but it should be possible to construct analogous many-valued systems.

The algebra employed contains a Boolean algebra corresponding to every positive integral value of n, including zero. The case for $n = 0$ gives the logic of propositions; for $n = 1$, the logic of classes; and for $n = m$, where $m > 1$, the logic of m-adic relations. The algebras of these different sublogics are developed simultaneously from the fundamental set of postulates.

Toward a New Synthesis in Esthetic Theory. MARJORIE S. HARRIS.

Present-day esthetic theory tends to be sophistic. By *sophistic* I mean that the individual in some unique aspect is regarded as the measure of things esthetic. But views similar to aspects of Plato's thought still obtain. Also there is emerging a new synthesis in esthetic theory. It will be possible only to suggest a substantiation of these claims through reference to the views of Leo Stein and Clive Bell.

Mr. Stein's position is, in the main, sophistic. He holds that the felt interest of the moment is central in the organization of works of art. Yet he is Platonic in claiming that colors and geometrical forms *per se* have genuine esthetic worth; in assuming that certain attributes are essential to works of art; and in positing the goal of esthetic activity as "completest dedication to the thing itself." From these positions a newer view is developing as seen in Mr. Stein's observations concerning the esthetic object and in his study of the self involved in the esthetic experience.

Sophistic in claiming that the appeal of *significant form* is merely to the feeling self, Mr. Bell is, however, Platonic in maintaining that the artist must work in accordance with certain laws and embody certain attributes in his art. Emerging from these positions is Mr. Bell's conception that the range of objects that may stimulate the esthetic experience is wider than anticipated either by those working in accordance with classical tradition or those influenced exclusively by the new movements.

A Metaphysic of Design without Purpose. MERRITT H. MOORE.

The idea of design is basic in any systematic statement of philosophic problems. It is technically closely related to the concept of order. In popular thought it is difficult to divorce these ideas from those of a designer or an orderer. Even astute philosophic criticism has been confused to the point that it is difficult to separate the idea of design from that of purpose. It has been thought that the two together are requisite to a rational statement of reality.

It is my contention that the notion of purpose is unnecessary and irrelevant to those of design and order. It is impossible to account for the order in our experience unless we admit an objective order in nature. On this point Cournot is nearer right than Kant. This order could arise in nature either through the purpose of some external being or process; or it could arise as a result of the internal nature of the ordered system.

From the point of view of speculative philosophy the latter is the more feasible, the more adequate, and the more reasonable alternative. From the point of view of logic it is the more probable alternative. The notion of design and order without purpose is not only the simpler of the two alternative metaphysical positions involved; it is also as completely adequate as the other alternative. It has long been a recognized principle of reason that the simplest among any alternatives, which equally well account for all factors in a given problem, is to be preferred over a more complex explanation.

Teleology and the Idea of Value. ROBERT C. BALDWIN.

Efforts to define teleology without reference to purpose and purpose in terms of systematic unity break down. There is evidence in recent discussions that the source of confusion is generally overlooked. It is proposed to approach the subject from three sides.

Henderson's widely-cited argument faces the dilemma that too much or too little is proved: it issues either in a position like that of "Paley, with the science brought up to date and God left out," or, if value categories are ignored, in the simple assertion that the environment represents a very improbable toss of the cosmic dice, but one no more improbable than any other. Certain metaphysical assumptions basic to the argument are evaluated.

Hobhouse, suggesting what may be the only sound criterion of the teleological inter-relationship of the parts of the organism, fails to instance a process which satisfies the criterion, except on the level of the conscious willing of ends. This failure has an important bearing on the mechanist-vitalist controversy.

Absolutistic metaphysics, putting time and purpose in the absolute, fails to justify its claim to the advantages accruing from having the absolute in time. Absolutism can not do with purpose and it can not do without it: this is its greatest strength and its greatest weakness. But, to reverse Bosanquet's dictum, if teleology is to have a meaning it must abandon the notion of simple systematic unity, of a totality which is perfection, and fall back on the idea of purpose as somehow valid and ultimate.

Is Scientific Verification Possible in Philosophy? C. J. DUCASSE.

Philosophy, like the sciences, aims at knowledge and not merely opinion. The typical knowledge-producing method is that of Hypothesis-Deduction-Verification. In what form if any is it available to philosophy?

Typical philosophical problems would be: What are Truth, Perception, Mind, Objects, Right, Beauty, etc.? The answer to any such question essentially constitutes a definition, no matter how complex, of the particular term concerned. But such a definition is not a merely verbal, arbitrary definition, for the word to be defined already has some, at least in part unquestioned, application and inapplication. And, relatively to that which the word admittedly does and does not apply to, the proposed definition of the word is demonstrably either tenable or untenable, for it constitutes a hypothesis as to what the word can and can not connote if it is to have the applications and inapplications that it admittedly does have. These constitute the facts by comparison with which the tenability of the hypothetical definition is to be tested. The test is whether anything admittedly denoted by the word can be found, to which the proposed definition is inapplicable; and whether anything admittedly outside the denotation of the word can be found, to which the proposed definition is applicable? Any proposed definition remains tenable so long as no such cases can be found. A definition which meets this test permits us to decide *in a non-arbitrary manner* whether some of the *disputed* applications of the word are or are not correct.

The Theory and Practice of the Concrete Universal. HAROLD R. SMART.

As ordinarily understood the universal is something which *essentially and necessarily* exhibits itself in recurrent instances, bare particulars of repetition. It is a common character, property, or relation, separable from, and independent of, the particulars. The view here advocated identifies the universal with individuality or system, and hence insists on the inseparability of universal and particular as aspects of the real; while it allows that so far as finite

realities are concerned, a potential plurality of instances, as a strictly subordinate feature of the universal, is possible. In mathematics, where utter numerical diversity is at a premium, this subordinate feature is most prominent, and hence when mathematics is taken as our ideal of knowledge and reasoning it is an easy mistake to construe the universal as "abstract."

On any view the universal somehow transcends the given, the present, and the barely existential. But such transcendence is merely parodied by the doctrine of the subsistence of universals. The criticisms of Kemp Smith and S. Alexander of the universal as concrete are motivated by dislike of the supposed metaphysical implications—a timeless, Spinozistic, superrelational Absolute. Both critics, however, join with Dewey in maintaining the indissolubility of universality and particularity in the real. This suggests that their criticisms and disagreements might be met by proper emphasis on the thesis that the concrete universal is a self-developing totality. In this respect the applications of this doctrine to problems of logic, esthetics, and ethics are most suggestive.

Time and the Absolute. PAUL WEISS.

The moderns pride themselves on "taking time seriously," which is their way of saying that they take change for granted and explain away the fact of persistence. Newtonians, of whom Einstein is the most consistent, on the other hand, take persistence for granted and explain, or explain away, change. Both sides commit the same fallacy of "essential completeness" of which Whitehead's "simple location" is a somewhat dubious and specialized instance. *To be is to be incomplete.* The essence of objects consists in the tendency to incorporate others within themselves; in a striving to become the Absolute. But it is precisely because no object can absorb all the others that the Absolute is only an unattainable ideal of being and time must go on without end. Things can change only because they persist, and can persist only because they change.

The Finite Universe and Scientific Extrapolation. BENJAMIN GINZBURG.

The Kantian doctrine of the antinomies, cornerstone in the only thorough-going attempt ever made to justify the fundamental procedure of scientific extrapolation, has been challenged by the recent development of finite cosmological theories. Kant justified ordinary scientific extrapolations from the known here and now into the unknown elsewhere and future (or even into the past) as being formal anticipations of experience and thus subject to experiential verification or revision; by the same token cosmological extrapola-

tions were declared invalid because no possible verifying experience can be conceived without contradiction. Since the new theories claim categorically to set spatial and temporal limits on the universe, we must either find a new method of justifying the truth of science or else see where the theories are wrong.

Investigation reveals, however, that the Einsteinian finite universe, the *fons et origo* of the later models of the universe, was based not on any sensationally new facts of a character to upset the validity of Kant's contentions, but merely on the desire to solve cosmological paradoxes which, when they were submitted to Newton by Bentley, the great British physicist had the good sense to dismiss as outside the domain of positive science. The timidity of philosophers in combatting Einstein's cosmological doctrine, together with the ignorance of astronomers as to the philosophical questions involved, has encouraged a mushroom growth of cosmological tendencies in astrophysics to the extent of menacing the development of positive science, since in the conflict of cosmological with positive scientific theories (the age of the universe vs. the theories of stellar evolution) most astronomers seem to prefer to cling to their metaphysical speculations.

The Spurious Problem of Evidential Weight. CHARLES A. BAYLIS.

J. M. Keynes, in his *A Treatise on Probability,* distinguishes between the *weight,* that is, the mere *amount,* of the evidence for an assertion of probability, and the favorable or unfavorable *nature* of such evidence. Although probability is conferred by the latter alone, nevertheless, Keynes urges, "We ought to take account of the weight as well." Why we ought to, he admits he does not know.

This paper is an attempt to show that in cases where we rely on a probability based on a large rather than a small amount of evidence we do so because the larger amount of evidence includes facts on the basis of which we can know that it is more probably *typical* of all possible evidence than is the smaller amount. In the absence of more specific facts such knowledge may be derived from the general principle that the greater the quantity of knowledge on which a judgment of probability is based the more probable it is that all important determining factors are known.

Weight is not a factor independent of probability which needs to be considered in addition to the probability conferring powers of the evidence. These powers, indeed, usually do increase as weight does, but they alone need to be considered and not weight in addition. The problem of weight as distinct from that of probability is a spurious one.

Arguments for the Probable Truth of Realism. S. KERBY-MILLER.

This paper discusses some recent attempts to show that realism is probable. Particular attention is given to the argument of H. H. Price in his book, *Perception,* but the principle brought out has general application. Mr. Price bases his argument upon an analysis of "perceptual consciousness" in which he discovers an *a priori* notion of the "complete material thing." This has two parts related by conjunction, the "family" of sense data and the "physical occupant" which has "causal characteristics." The "family," he argues, may be interpreted phenomenalistically but the experiential confirmation of concept of the "physical occupant" allows us to conclude that it is highly probable that there exist physical objects, having causal characteristics and "intrinsic characters" which we can not know. Examination of his argument shows, however, that the most that is confirmed or rendered probable, on his premises, is that certain *a priori* (mental) concepts may be successfully used to organize and anticipate sense-data.

Russell's argument is, in the end, confronted with this difficulty, and so also is the pragmatic argument if the latter is based upon a phenomenalistic analysis. Based upon a biological analysis it begs the question.

If we say, as in strictness we ought to say, that probability for a proposition can only be established on the basis of *independent* propositions, it seems very unlikely that there could be a sound argument for the *probability* of realism. Sound arguments for realism can be based only on indicative propositions the objects of which are the entities, or situations, or events which the realist asserts to have existence.

Royce's Early Philosophy of Religion. GEORGE DYKHUIZEN.

Whereas in the later stages of Royce's philosophical thought voluntarism was called to do service for his absolutism, in the early stages it was made the basis of a relativistic, pragmatic philosophy. As such, it colored all the various aspects of Royce's early philosophy and particularly his philosophy of religion.

The religious consciousness, according to Royce, is concerned with the nature and possibility of salvation. Before the metaphysics of salvation can be adequately dealt with, however, it is necessary to enter into a discussion of the epistemological problem.

Royce's early theory of knowledge maintains the thesis that every sincere judgment is true for the moment in which it is made, but not necessarily true for other moments. The metaphysical implications of this epistemology are obvious. The world of the present is alone real. The ego itself is a momentary state of consciousness having the capacity, however, to "conceive" a past and a future.

In this latter fact lies the possibility of salvation for the individual. The supreme moral end of human life is "conscious union of every being with the great whole of conscious life." To enter into this life of the Other, says Royce, is religion; to withdraw within oneself is moral starvation.

The uncertainty of our knowledge concerning the ultimate nature of the universe precludes assurance that this goal will ever be attained. The essence of the religious attitude, however, says Royce, is "neither optimism nor pessimism, but simply earnestness to make the world significant."

Leibniz' Theory of Matter. J. A. IRVING.

Leibniz' Theory of Matter can best be understood in terms of a conceivable modification of the Causal Theory of Perception. Let us call sensibilia "confused perceptions" of "physical objects," and in considering the cause of sensibilia let us substitute Leibniz' pre-established harmony for the physico-physiological series. Matter, for Leibniz, was a phenomenon *bene fundatum:* according to the Causal Theory this would mean that Matter is causally related to objective existence in a public world. Leibniz had to show that Matter possesses those very same characteristics which it would possess if it actually were related to its noumenal counterpart, which is a group of confused monads—with the point of view varying continuously between adjacent members of the group.

Leibniz found the corresponding "foundation" in the group of monads of each of the five characteristics of Matter which, on our interpretation, is an element in one of the states of a monad known as a perceptual situation. Further, "confusion" attaches, not to the monad's simple awareness of the bit of Matter, but to the "external referring" associated with that state. *Practically,* we act as if the bit of Matter were an external and independent existent, though *actually* the latter is the group of monads to which the former corresponds and by which it would have been caused, in the absence of pre-established harmony.

Our interpretation enables us (1) to show why Leibniz adopted a phenomenalistic theory, (2) to exhibit the significance of his theory in the light of subsequent developments in philosophy and science.

Some Remarks on Schelling's Philosophy of Nature.[1] FRITZ MARTI.

"Time as such, as mere *time,* has reality only in abstract thinking" (ccxxi). Mathematically speaking, time as such is only a

[1] For convenient reference, the quotations of this abstract are taken from a few pages of the *Aphorismen über die Naturphilosophie* (of 1806–07), volume VII, pp. 233–241, of the works. The Roman numerals of the aphorisms are given.

parameter dependent on the arbitrarily chosen system of coördinates. Schelling's repeated statement that the real, in time, is the non-temporal (e.g., ccxv), seems to point in the direction of relativistic invariant laws.

However, Schelling is not a prophet of modern physics, but a critic of the contingencies in the science of his time. In classic physics, the indifferent void of absolute space, and the indifferent flux of absolute time have no necessary connection with each other, nor with the spatio-temporal position of physical events. These positions are contingent, and the events themselves are merely contingent embodiments of the indifferent generality of classical laws of nature.

Schelling reiterates that the non-temporal essence of what is real is not the abstractly general, but the universally particular (e.g., clxxix, clxxxviii, ccxxix). Only in abstraction from universality the particular appears as contingent (ccxxx), and this contingency calls for the attempt at substantiation through an infinite regressus of antecedents (ccxxvii).

This critical trend in the Philosophy of Nature yields a clue to some of Schelling's accounts of phenomena like gravity and light, accounts which might seem to be mere "deduction" (Fichte, VII, 125; compare Hegel, *Phänomenologie,* ed. Lasson, p. 16). In the very period of *Naturphilosophie,* unmistakable sentences of Schelling's deny the possibility of an *a priori* deduction of the concrete from abstract principles.

BOOK REVIEWS

Platon et l'art de son temps. (*Arts plastique.*) PIERRE-MAXIME SCHUHL. Paris: Félix Alcan. 1933. 123 pp.

It is a familiar enough fact that Plato's esthetic ideas and standards were, like his political ones, closely related to recent traditions and to experiments of his time. It has long been suspected that his more general metaphysical concepts, the concept of form itself, owed no less to his pre-occupations with the plastic arts of his time than with a Pythagorean pre-occupation with measure and mathematics. M. Schuhl has, in an admirable monograph, treated Plato's attitude toward the art of his time and of his heritage with specific reference to the plastic arts and specific consideration of the way in which Plato's knowledge and taste in these current esthetic productions and controversies partly affected and partly flowed from his moral preferences and his mathematical predispositions. Plato's taste was "conservative" in the fine arts, and this conservatism, that found its political and moral expression in standards of simplicity and

severity, was partly echoed in and partly borrowed from his "archaic" tastes in the fine arts: "En ce qui concerne la sculpture, par exemple, il est évident qu'après Polyclète et Phidias, aucun progrès n'était plus possible dans le même sens; dans un autre ordre le maniérisme du style fleuri indique un certain épuisement; et tandis que de hardis novateurs s'engagent dans des voies inconnues, jusque-là, des archaïsants s'éfforcent de revenir à l'idéal de la grande époque où Platon sait si bien nous ramener. . . . Platon n'hésite pas à prendre position dans cette qüerelle; la sévérité qu'exigent ses idées l'emporte sur sa sensibilité d'artiste, et nous verrons que, si ses rigueurs vont surtout aux 'modernes,' il ne peut approuver pleinement de l'art que certaines formes très particulières" (p. 2).

Plato shows himself to be a partisan of a hieratic art, unchangeable like that of Egypt (p. 19). He is afraid of the arts that encourage emotional instability and deceptive illusion. He retreats from the "irrational influence" of the plastic arts in their more fluid and dynamic aspects, and turns "against the artifice of the illusionists to measure, number, and weight" (p. 37). That measure, beauty, and harmony which are true Beauty are reflected, though at best in an imitation distant and degraded, in those schools of art, dead a half century before Plato, where "archaic" order still ruled.

I. E.

Aristotle's Theory of the Infinite. Abraham Edel. New York: Privately printed. 1934. 102 pp. $1.00.

There is first a penetrating and thorough exegesis of the relevant passages in the Corpus, together with an explanation and discussion of the arguments by which Aristotle was led to reject the idea of an actual infinite and to accept that of potential infinite. Then there is a logical elaboration of Aristotle's position with regard to the question in what sense the world as a whole may be called finite or infinite. Finally, the author shows that the developed theory of the infinite ultimately rests on Aristotle's philosophic method of analyzing facts to discover principles and testing the principles by further application to facts, so that the infinite or any other principle is bound to be only a character of the determinate world of experience, not even applicable to the whole. Since this procedure in the present case might be criticized as trying to explain the infinite in terms of the finite and refusing to recognize it as an ultimate category (in the way suggested, for instance, by some Oriental and Christian art), the author examines the fundamental implications of Aristotle's method and concludes that it "can not be proved, except perhaps in the mode in which he sought to establish the principle of contradiction, viz., by showing that its

denial reduces the one denying it to silence. If one prefers silence, however, there is nothing to be said'' (p. 102).

It is a pity that this work should be marred by much bad printing, for it makes a significant contribution both to Aristotelian scholarship and to logic.

R. S.

Friends of God: Practical Mystics of the Fourteenth Century. ANNA GROH SEESHOLTZ. New York: Columbia University Press. 1934. viii + 247 pp.

This book offers a study of the leading German mystics of the fourteenth century, Meister Eckhart the leader of the whole movement, Tauler the moralist, Suso the ''agonist,'' Heinrich von Nördlingen, Rulman Merswin who is identified with ''the great friend of God of the Oberland,'' the writer of *Theologia Germanica,* Ruysbroeck, and a number of others like Thomas à Kempis, Gerson, and Nicholas of Cusa in the next century. The study is strongest on biographical and literary matters, assembling critically the results of much German research in this obscure field. It is less satisfactory in philosophical analysis. Perhaps there is less work to be done in philosophical analysis of these German mystics. At least the author herself comments (p. 213): ''Meister Eckhardt and his followers may not have added an original idea to speculative thought.'' Yet the author places the mystics successfully in their religious and cultural setting, giving effectively the background of the times in which they lived and worked. The author emphasizes the practical side of the mystic way, the fruits of mystical experience in social affairs, the measure of integration and sense of direction that the mystic way affords for the general course of personal and social life. The author's approach to her material is so sympathetic that she succeeds in arousing and holding interest in her narrative.

S. P. L.

Immanuel Kant's Religion within the Limits of Reason Alone. Translated with an Introduction and Notes by Theodore M. Greene and Hoyt H. Hudson. Chicago: The Open Court Publishing Company. 1934. lxxxv + 200 pp. $3.00.

Thanks are certainly due to Professors Greene and Hudson for this most useful edition and excellent translation of Kant's *Religion innerhalb der Grenzen der blossen Vernunft,* a work which throws much light on its author's spirit and especially on his moral philosophy. Professor Greene, who ''assumes responsibility for the ideas embodied in the introduction'' to the translation, characterizes this writing of Kant's as ''worthy of being regarded as a deistic

classic," revealing "an understanding for, and a sympathy with, Christian dogmas far deeper than that commonly found in the deistic literature of the period."

Traditional religionists, however, will find scant appreciation and perhaps little understanding of their positions in these pages of Kant's, it seems to me. Particularly surprising are his very harsh and unperceptive strictures on Judaism as scarcely worthy of being considered a religion, because "God, after all is here merely an earthly regent making absolutely no claims upon, and no appeals to conscience" (pp. 116 ff.).

For Christianity, it is true, Kant does show sympathy, and an understanding at least of the form in which he can tolerate its existence until such time when, through moral and intellectual culture, it shall have become superfluous. He is nearest to Christianity in affirming that man needs not only "a gradual reform in his sensuous nature," but also a "revolution in his cast of mind" or disposition, "a kind of rebirth." He is far from it, however, in his conviction that such regeneration lies in man's power, that "man *himself* must make or have made himself into whatever, in a moral sense, whether good or evil, he is or is to become" (pp. 40 ff.).

It is true that Kant finds a place for an incomprehensible divine grace, but the closing words of his book are that "the right course is not to go from grace to virtue but rather to progress from virtue to pardoning grace." It is true, moreover, that he finds a need for an historic church and a revealed ecclesiastical faith embodied in Scripture. But such a church is not a true church, he adds, unless it advances the cultivation of "pure religious faith" which renders it superfluous.

Kant believes that each individual is intrinsically capable of self-regeneration. But in society men corrupt one another, so that the church as an institution to promote the principles of virtue is needed. This justification of the church seems to overlook the fact that the society of the world can corrupt the church instead of being purified by it. And is it not strange that Kant should overlook this in view of his very low estimate of the "morally worthless," "pseudo-service" of God which he finds generally practiced in the historic churches?

In his Introduction Professor Greene tells us that "after reaching maturity, Kant never attended church services; he even took special pains to avoid them." Perhaps this is connected with the inadequate perception Kant displays in his book of the reasons why people go to church. The first part of Professor Greene's Introduction gives us very interesting information regarding the religious environment of Kant. The middle part is too long occupied, in my

opinion, with a critical restatement of Kant's reflections on the arguments for the existence of God. Probably the most valuable contribution in this connection is the information, as yet little known, that Kant's *Opus Postumum* shows him questioning in his last years the argument for God from the nature of the *summum bonum*, and inclining to the more rigoristic, less hedonistically tinged view that "in the categorical imperative God reveals Himself" (p. lxvi). At the close of his Introduction Professor Greene aptly remarks: "The starry heavens in their incalculable immensity, the inescapable finitude of all human cognition, the paradox of artistic genius, the sublimity of the moral law, the baffling complexity of life and human consciousness—all this awakens in Kant a spirit of reverence." In a discussion of Kant's relation to religion these traits perhaps merit more attention than do his arguments concerning God.

H. L. F.

La pensée et le mouvant. HENRI BERGSON. Paris: Félix Alcan. 1934. 333 pp. 25 francs.

This volume gathers together and in some cases prints for the first time in French a number of Bergson's essays and lectures which have hitherto been relatively inaccessible. Among these are two introductory essays written especially for this collection, the Oxford Lectures of 1911, the *Introduction to Metaphysics*, and his speech on Ravaisson read on the occasion of his accession to Ravaisson's chair in the Académie des Sciences Morales et Politiques. There would seem to be nothing new in the volume—except the historical information about Ravaisson—for students of Bergson, but the old doctrines of the *durée réelle*, intuition, and change, are all defended and sometimes restated in ways which may be unfamiliar to contemporary readers. One of the most striking effects of reading these essays is the impression of close harmony between Bergsonism and the metaphysics of some of the modern physicists. His attacks upon the subject-attribute logic and upon substantialism, in particular, are in accord with much that is nowadays expressed as something novel.

G. B.

Beyond Conscience. T. V. SMITH. New York: McGraw-Hill Book Company, Inc. 1934. xv + 373 pp. $3.00.

In its conclusion this book is neither startling nor original, namely, that conscience is not a fit judge of itself, though it judges all else. But the manner in which this conclusion is arrived at is both startling and original and makes this treatise one of the most interesting and fertile in contemporary ethical literature. The first

half of the work is devoted to the refutation of those ethical doctrines that regard conscience as a form of knowledge or truth: the theological (deriving the validity of the good from the power of God), the idealistic (equating value and reality), the sociological (lending to conscience the authoritative and altruistic voice of Society), the metaphysical (seeking the fulfilment of conscience in the reality of the state), and the logical (asserting the self-evidence of right and wrong). Professor Smith's critique of these traditional attempts to validate, or, to use his term, "implement" conscience as a reliable instrument of judgment is penetrating as well as unconventional.

The conclusion drawn in Chapter VII, "The Aesthetic Finality of Conscience," is that conscience is thoroughly dynamic, private, and subjective. It is the active aspect of consciousness, pushing for power, judging others in ruthless self-assertion, demanding justice in order that it may dominate. In the next two chapters, the most brilliant and audacious of the book, Professor Smith takes two extreme versions of conscience to prove his point: first, moral solipsism," the doctrine of self-realization, which he expounds in psychoanalytic terms and discovers to be useless as a basis for social order; secondly, moral behaviorism or materialism, which he expounds in Marxian terms and discovers likewise to be socially irresponsible. For, though both approaches to conscience (the subjective and the objective) embody the same moral law (the principle of equality), this principle in the hands of a conscientious integrator-of-his-own-ego or in the hands of a dictatorship of the proletariat is a principle of control and therefore refuses to place the judger on an equality with those he judges, thus revealing that conscience's appeal to equality is merely a device for concealing the struggle for power that goes on incessantly among consciences.

For a genuinely social (as opposed to a conscientious) equalitarianism, Professor Smith falls back (or possibly forward) on the doctrine that the active self is only a partial self and that true society is learning to share what is by nature most private. "The self now unified arises in its unity to subordinate the driving part to the contemplative whole. Consciousness looks upon conscience and finds it good, not merely for what henceforth it can achieve, but for what it is in its own nature, a dynamic datum to a contemplative mind" (p. 353). There are two opposite ways of thus transcending conscience: the Oriental sublimation of the will to power ending in "solipsistic self-absorption" and the Western "experimental equalitarianism without determinable limit as the political and economic stalemate of spirits devoted to power."

H. W. S.

Geist und Sache. Grundlegung der Theorie der Geisteswissenschaften und Klärung des Sinnes Kulturellen Schaffens. WILHELM GREBE. Frankfurt: Moritz Diesterweg. 1934. vii + 226 pp. 7.20 M.

In the last twenty years, the significance of the *Geisteswissenschaften* and of the *geisteswissenschaftliche Methode* has been so much emphasized in Germany, not only in philosophical circles but also in the curricula of higher education, that a reaction was almost inevitable. The book of Grebe is one of the signs of this reaction. *Geist* is according to him the principle of activity (*Tun*), and on that view, historical science is the only *Geisteswissenschaft,* because it alone deals with activity. All the other disciplines usually called *geisteswissenschaftlich,* as the investigations of works of art, of laws, and so on, are directed upon objects and therefore are objective disciplines. On the other hand, history is only a scientific discipline if it objectivizes the spirit; that means that the historical actions do not belong to historical science if experienced in empathetic inner repetition, but only in being taken as objective facts.

When the spirit is limited to activity, it has, according to Grebe, no meaning which is not taken out of the object. Therefore every real connection between the acts has to take into account the object to which the action is directed, and laws of the activities alone are therefore impossible in the realm of *Geisteswissenschaften.*

These fundamental conceptions are applied by Grebe to different problems. He tries, for instance, to solve the problem of antagonism between the two doctrines of the objective spirit (the Hegelian notion of its existence, and the doctrine of its non-existence), by maintaining that the objective spirit is a theoretical assumption like assumptions made in natural science (for instance the assumption of electric fields), and has the same value as those for the explanation of reality.

More than a third of Grebe's book is given to the application of his concepts to problems of culture. In many cases, his answers are determined by the narrowness of his concepts: for example, when he draws the consequence out of his theory that it is impossible to create culture intentionally. In other cases he is entirely right, when he directs his attack against those who overemphasize the *geisteswissenschaftliche* way of analysis, and against those who believe that the purely historical understanding of the problems is sufficient to decide them. Furthermore, he objects to the widespread opinion that the discovery of truth is not to be determined by the investigation of objects but by finding out which type of answer is best adapted to the conditions of the time. But, strangely enough, this rejected attitude of gaining truth by the historical method is

for Grebe identical with liberalism (now despised in Germany), whereas the search for objectivity is identical with National Socialism.

In spite of all the objections which can be made as well against his starting-point as against his results, his analysis provokes reflection. If we apply the historical method (in spite of his opposition to this method) to his own book, we must realize that his book is, in its one-sidedness, an expression of historical necessity. After the high tide of the *geisteswissenschaftliche* method in Germany, reflections on its limits had to come, just as thirty years ago, when the scientific attitude was preponderant, the book of Rickert on the limits of scientific concepts had to come (even if the value of Grebe's book can not be compared with that of Rickert's work).

M. A. G.

Unendlich. Eine Untersuchung zur metaphysischen Wesenheit Gottes auf Grund der Mathematik, Philosophie, Theologie. ANTON ANTWEILER. (Freiburger Theologische Studien. Heft 38.) Freiburg: Herder & Co. 1934. (St. Louis: B. Herder Book Co. $1.75.) 200 pp.

The concept of infinity has figured, in senses that border on the equivocal, in the classical discussions of three disciplines that have claimed it as their own, philosophy, theology, and mathematics. Dr. Antweiler's study is a learned attempt to marshall the distinctions and the conclusions of mathematicians and philosophers in their bearing on the theological problem of the being of God. Beginning therefore with an analysis of the broad, popular locutions in which words like "infinite" and "innumerable" occur (in examples taken particularly from philosophers and theologians), he proceeds to a consideration of the possibility of an infinity of finite things or an infinite extension, passing thence, by way of Kant's antinomies, to the infinite number and the infinities of differential calculus and Mengenlehre (confirmation for which he finds in scholastic philosophy), after which the transition from mathematics to philosophy is effected (by way of the Hegelian discussion of the infinite) in the recognition of the "true infinity" evolved from the consideration of the opposition of finite and infinite, and that opposition in turn prepares for the discussion of the infinity of God's being, in terms suggested by the Scriptures, the Church Fathers, Aquinas, Bonaventure, Alexander of Hales, and Duns Scotus. Infinity as extension, infinity as number, infinity as fullness of being is the sequence of broadly supplementing senses which Dr. Antweiler finds in the controversies and theories he uses. The orientation of the entire study to theology permits Dr. Antweiler to solve difficulties and remove

confusions which he finds in the earlier stages of his inquiry, somewhat facilely at times, but no less frequently with a considerable accretion of insight. But that orientation has also the unfortunate effect of spreading the Platonic coloring, dominant in the theological concept of the infinite, over the theory which survives and the whole course of history which prepared for it. The alternative notion of the infinite, which goes back at least to Aristotle, as consequent to an operation performed on a continuum, has no place in the survey and no effect on its outcome, and even a writer like Thomas Aquinas, who as philosopher adapted the Aristotelian analysis to his uses, appears only as a theologian concerned with the aseity of God. The organization of the voluminous and divergent literature concerned with the concept of the infinite, nonetheless, has the stimulating effect of introducing a unity into a field of discussion in which most of the protagonists have taken pride in a radical diversity.

R. McK.

Science et loi. ABEL REY, F. JONSETH, HENRI MINEUR, A. BERTHOUD, L. CUÉNOT, HENRI PIÉRON, HENRI WALLON, MAURICE HALBWACHS, FRANÇOIS SIMIAND, VICTOR CHAPOT, LUCIEN FEBVRE. Paris: Published for the Centre International de Synthèse, by Félix Alcan. 1934. vi + 228 pp. 15 francs.

A series of lectures with summarized discussions, delivered at the Hôtel de Nevers, May 29 to June 3, 1933. It is always agreeable to hear Frenchmen discoursing on the aspects of the philosophy of science. It can not be said, however, that these present discussions of scientific law in mathematics, mechanics, physical chemistry, biology, psychology, and sociology, and of the place of chance in history, add much that is distinctly novel. There are hints of novelty in the effort to prove mathematics an empirical science, and in the application of Cournot's theory of chance to history.

H. T. C.

The Permanent Horizon: A New Search for Old Truths. LUDWIG LEWISOHN. New York: Harper & Brothers. 1934. 223 pp. $2.50.

Literary men as well as scientists seem to be finding it hard these days to resist the temptation to turn philosophers or, failing that, evangelists to their erring fellow-men. In the instance before us, it appears that some of the more radical of the younger intellectuals have got under Mr. Lewisohn's skin, and have provoked him to a vehement outburst of disapproval visited impartially upon extremists right and left. Roused to defend the liberal and humanistic spiritual values which he mistakenly believes to depend exclusively

upon the fortunes of the middle class, the author has constructed his sketchy tract on the ancient formula that the best defense is a good offense. Many will find it easy to join him in his eloquent expressions of disgust; but few will agree that he has succeeded in the far more serious business of establishing an intellectual balance on the basis of an "ultimate reality, some foundation upon which men have built before, and can, if it exists and if it remains, build again." He finds this sought-for foundation for religion, surprisingly enough, in the thought of an "old German metaphysician" named Kant. One fears, however, that the perverse younger intellectuals, if they read Mr. Lewisohn's latest sermons in addition to his novels, will be too much amused by his bold and fervent hymning of bourgeois virtues to join him in a movement back to Kant.

H. A. L.

OTHER NEW BOOKS AND JOURNALS

THE PHILOSOPHICAL REVIEW. Vol. XLIII, 6. Pragmatism and Metaphysics: *C. W. Morris.* The Conception of Law in Statistics and Mechanics: *David Schechtman.* The Contribution of Max Scheler to the Philosophy of Religion: *M. E. Clarke.* Emergent Evolution: An Indian View: *K. R. Srinivasiengar.* Discussion—Meaning without Mind: *V. C. Aldrich.*

Dwelshauvers, G.: L'Étude de la pensée. Méthodes et résultats. Paris: Pierre Téqui. 1934. 230 pp. (Lectures delivered at the Institut Catholique de Paris. The first part is a critique of experimental studies of thinking; the second is a discussion of the problems of the unity of the mind with special attention to the theory of spiritual intuition.)

NOTES AND NEWS

We print below the program of the Thirty-fourth Annual Meeting of the Eastern Division of the American Philosophical Association which will be held at New York University, Washington Square, New York City, December 27, 28, and 29, 1934.

THURSDAY, DECEMBER 27

CONCURRENT SESSIONS

2:30 P.M. Auditorium, Education Building

A Definition of Abstract Systems ..... *Paul Henle*
Contradiction ..... *Otis H. Lee*
A Solution of the Paradoxes Which Avoids the Theory of Types ..... *Frederic B. Fitch*
Introduced by F. S. C. NORTHROP

2:30 P.M. Room 879, Education Building
Toward a New Synthesis in Aesthetic Theory. *Marjorie S. Harris*
A Metaphysic of Design without Purpose.... *Merritt H. Moore*
Teleology and the Idea of Value..... *Robert C. Baldwin*
8:00 P.M. Informal Smoker Green Room, East Building

FRIDAY, DECEMBER 28

9:30 A.M. Auditorium, Education Building
Welcome by CHANCELLOR HARRY WOODBURN CHASE OF NEW YORK UNIVERSITY.
Symposium: "The Future of Liberalism"
John Dewey
William Ernest Hocking
William Pepperell Montague
2:30 P.M. Auditorium, Education Building
Is Scientific Verification Possible in Philosophy?.. *C. J. Ducasse*
The Theory and Practice of the Concrete Universal
Harold R. Smart
Time and the Absolute..... *Paul Weiss*
4:30 P. M. Tea Green Room, East Building
5:30 P.M. Meeting of Executive Committee.
7:30 P.M. Annual Association Dinner Hotel Brevoort
PRESIDENTIAL ADDRESS:
The Philosopher and his Words..... *Warner Fite*

SATURDAY, DECEMBER 29

CONCURRENT SESSIONS

9:30 A. M. Auditorium, Education Building
The Finite Universe and Scientific Extrapolation
Benjamin Ginzburg
The Spurious Problem of Evidential Weight.. *Charles A. Baylis*
Arguments for the Probable Truth of Realism.. *S. Kerby-Miller*
9:30 A. M. Room 879, Education Building
Royce's Early Philosophy of Religion..... *George Dykhuizen*
Leibniz' Theory of Matter..... *J. A. Irving*
Some Remarks on Schelling's Philosophy of Nature.. *Fritz Marti*
12:15 P.M. Auditorium, Education Building
ANNUAL BUSINESS MEETING